

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Ramesh, et al.	§	Group Art Unit: 3628
	§	
Serial No.: 10/730,629	§	Examiner: Nelson, Freda Ann
	§	
Filing Date: December 8, 2003	§	
	§	
Title: Closed-Loop Estimation of Request Costs	§	Attorney. Docket No.: 11141

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37 CFR 1.8

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DATE OF SUBMISSION: JULY 7, 2009
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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reasons stated on the attached sheets.

Respectfully submitted,

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Reasons for Review

Claims 1, 3-15, 17-28, 30-42, and 44-56 are pending. A Final Office Action issued on April 13, 2009. The Applicant timely responded on June 9, 2009. An Advisory Action issued on June 23, 2009.

1. The cited references do not teach determining that a stored actual access path cost for the access path exists, and, in response, substituting the stored actual access path cost for the estimated access path cost, the stored actual access path cost for the access path being a measured cost of executing the predicate using the access path, as required by independent claims 1, 15, 28, and 42 because a query is not the same thing as an access plan.

The Final Office Action rejected claims 1, 3-5, 17-19, 28, 30-32, 42, and 44-46 under 35 USC 103(a) (Applicant assumes that the reference to 35 USC 102(b) in this section is a typographical error) as being unpatentable over an article entitled "Access Path Selection in a Relational Database Management System" (hereinafter referred to as "Access Path Selection") in view of United States Patent No. 6,026,391 (hereinafter "Osborn"). Final Office Action at 9. Applicant respectfully disagrees.

The Final Office Action admitted that Access Path Selection does not teach "determining that a stored actual access path cost for the access path exists, and, in response, substituting the stored actual access path cost for the estimated access path cost, the stored actual access path cost for the access path being a measured cost of executing the predicate using the access path," as required by independent claims 1, 15, 28, and 42, but argues that Osborn teaches this element in the following excerpt:

In particular, for each new query, a cost optimizer located within the computer system DBMS determines a most efficient execution plan for accessing the requested data, along with an estimate of the corresponding (relative) system "cost" for executing the query. This estimated cost is returned to the QPP module at the respective user station, which employs a "nearest neighbor" algorithm to determine an estimated central processing unit ("CPU") time required for executing the present query by extrapolating CPU times recorded for past queries having the same or similar estimated costs for accessing the same, or similar, tables and items in the database. The estimated CPU time for the present query is then multiplied by a current ratio of total elapsed times to CPU times to produce an estimated total elapsed time for the system to respond to the present query.

In accordance with one aspect of the invention, each user station records pertinent information for each new user query, which is collected and maintained by the host computer 22 in a query history. The query history preferably includes for each query an identification of the particular table(s) and columns that were accessed, whether the query was satisfied from a pre-computed summary, the estimated cost for the query, the actual CPU time used in running the query and the total elapsed time required to complete the query and respond to the user. Osborn, col. 2, lines 9-33.

This section does not teach “substituting the stored actual access path cost for the estimated access path cost,” as required by independent claims 1, 15, 28, and 42. Instead it describes a “nearest neighbor” algorithm to estimate the CPU time required to execute a query. This is not the same thing as substituting the stored actual access path cost for the estimated access path cost.

Other portions of Osborn do not support the Final Office Action’s argument concerning this element. Osborn describes “select[ing] the recorded actual CPU time 72 of the matching past query 58 as an estimated CPU time 82 for the present query 40” but this selection is made if the present query matches a recorded past query. Osborn, col. 7, lines 10-16. Independent claims 1, 15, 28, and 42 require substituting the stored actual access path cost for the estimated access path cost if there is a stored actual access path cost for the access path. An access path is not the same thing as a query, as Osborn recognizes. See Osborn, at col. 6, lines 16-23 (“The cost optimizer 42 considers available access paths to the requested data from the database 32, and derives a plan for executing the query that is most efficient based on statistics maintained in a data dictionary associated with the respective table(s), along with their associated clusters and indexes, accessed by the SQL statement representing the query 40.”)(emphasis added).

The Advisory Action makes the same argument as the Final Office Action. Advisory Action at 2. It does not address the difference between an access path and a query discussed in the previous paragraph.

Thus, Osborn does not teach this element of independent claims 1, 15, 28, and 42, and those claims are not obvious and are patentable over the Final Office Action’s combination of Access Path Selection and Osborn. Claims 3-5, 17-19, 30-32, and 44-46 depend from one of independent claims 1, 15, 28, and 42 and are patentable for at least the same reasons. Applicant respectfully requests that this rejection be withdrawn.

2. Claims 6-9, 20-23, 34-36, and 48-50 are patentable for at least the same reasons.

The Final Office Action rejected claims 6-9, 20-23, 34-36, and 48-50 under 35 USC 103(a) as being unpatentable over Access Path Selection in view of Osborn and further in view of United States Patent No. 6,957,211 (hereinafter Tyunelev). Final Office Action at 13. Claims 6-9, 20-23, 34-36, and 48-50 depend from one of independent claims 1, 15, 28, and 42. As demonstrated above, the Final Office Action’s combination of Access Path Selection and Osborn is missing at least one element from independent claims 1, 15, 28, and 42. Those same elements are missing from claims 6-9, 20-23, 34-36, and 48-50. The Final Office Action does not argue that the missing elements are provided by Tyunelev. The Advisory Action adds nothing to this argument. Advisory Action at 2. Therefore, claims 6-9, 20-23, 34-36, and 48-50 are not obvious and are patentable over the Final Office Action’s combination of Access Path Selection, Osborn and Tyunelev. Applicant respectfully requests that this rejection be withdrawn.

3. Claims 10-11, 24-25, 37-38, 41, 51-52, and 55-56 are patentable for at least the same reasons.

The Final Office Action rejected claims 10-11, 24-25, 37-38, 41, 51-52, and 55-56 under 35 USC 103(a) as being unpatentable over Access Path Selection in view of Osborn and further

in view of United States Patent No. 5,899,986 (hereinafter “Ziauddin”). Office Action at 15. Claims 10-11, 24-25, 37-38, 41, 51-52, and 55-56 depend from one of independent claims 1, 15, 28, and 42. As demonstrated above, the Final Office Action’s combination of Access Path Selection and Osborn is missing at least one element from independent claims 1, 15, 28, and 42. Those same elements are missing from claims 10-11, 24-25, 37-38, 41, 51-52, and 55-56. The Final Office Action does not argue that the missing elements are provided by Tyunelev. The Advisory Action adds nothing to this argument. Advisory Action at 2. Therefore, claims 10-11, 24-25, 37-38, 41, 51-52, and 55-56 are not obvious and are patentable over the Final Office Action’s combination of Access Path Selection, Osborn and Tyunelev. Applicant respectfully requests that this rejection be withdrawn.

3. The rejection of claim 1 appears to have been withdrawn in light of amendments made after final.

The Final Office Action rejected claim 1 under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Final Office Action at 8-9. In response, Applicant amended claim 1 to address this rejection and requested that the rejection be withdrawn in light of the amendments. Applicant made the same amendments to independent claims 15, 28, and 42. The Advisory Action did not mention this rejection. Presumably it has been withdrawn. If not, Applicant respectfully requests that this rejection be withdrawn in light of the amendments.

4. The provisional rejection of claims 1, 15, 28, and 42 should be withdrawn because the other rejections have been resolved as indicated above.

The Final Office Action provisionally rejected claims 1, 15, 28, and 42 on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1, 12, and 23 of copending application no. 11/328,702. Final Office Action at 4-8. As indicated in Applicant’s February 18, 2008 Response, in Applicant’s January 9, 2009 Response, and in Applicant’s June 9, 2009 Response, Applicant understands that, because the instant application was filed before application serial no. 11/328,702, this rejection will be withdrawn when the other rejections have been resolved. MPEP 104(1)(B)(2). Applicant believes that the other rejections have been resolved, as described above, and respectfully requests that this provisional rejection be withdrawn.

5. The Final Office Action does not describe a basis for rejecting pending claims 12-14, 26-27, 33, 39-40, 47 or 53-54.

The Final Office Action does not describe a basis for rejecting pending claims 12-14, 26-27, 33, 39-40, 47 or 53-54. Presumably, those claims are allowed. Applicant respectfully requests that claims 12-14, 26-27, 33, 39-40, 47 or 53-54 be allowed.